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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/559,820	03/22/2006	Torsten Renn	20459-00397-US1	7410
30678 7590 06/01/2009 CONNOLLY BOVE LODGE & HUTZ LLP 1875 EYE STREET, N.W. SUITE 1100 WASHINGTON, DC 20006				
EXAMINER WEBER, JONATHAN C				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/559,820

**Applicant(s)**

RONN ET AL.

**Examiner**

Jonathan C. Weber

**Art Unit**

3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

**Pursuant to the response filed on 14 April 2009**, the amendment to the claims have been entered into the instant application. The previously noted 112 rejections of the claims and rejections utilizing the Lawther reference have been overcome by the amendment and are hereby withdrawn. Claim 2 has been cancelled, no claims have been added, and claims 1 & 3-20 remain pending in the instant application.

### ***Claim Objection***

Claim 1 and its dependents are objected to because of the following informalities: The added phrase to claim 1, "...at the front side of the liner a periphery of the liner..." is grammatically confusing. It appears that "a periphery" should read "at the periphery" or something similar. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. **Claims 1, 3, 5, 7, 9, 10, 13, and 16-20** are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. Patent 5,544,589 issued to Held (Held).

**Regarding claim 1,** Held discloses a device to control material or fragment discharge in an ammunition unit's direction of flight (the direction of flight is relative to how the ammunition unit was fired, dropped, or launched) from a primary or secondary liner (2 & 4, Figure 1) in connection with triggering, by initiation of a main charge (1, Figure 1) of the ammunition unit (Implicitly understood, warhead) wherein an explosive pre-charge or pre-charges are arranged at the front side of the liner a periphery of the liner (In view of Figure 2) and that the liner is devised as being exposable for effect from the explosive pre-charge or pre-charges (5a-5e, Figure 2) that are devised as being able to be initiated upon or shortly prior to the triggering of the main charge (Col. 3 Lines 19-32) and wherein the explosive pre-charge or pre-charges obtain, upon initiation, a pre-deformation of the liner prior to the liner being affected by the triggering of the main charge for material or fragment discharge (Col. 3 Lines 19-32, in view of Figure 3).

**Regarding claim 3,** Held discloses wherein the explosive pre-charge or pre-charges are arranged at a periphery of the liner (In view of Figure 2) with an intermediary barrier (4, Figure 2).

**Regarding claim 5,** Held discloses wherein each explosive pre-charge is formed with an exterior surface, facing lengthwise to the main charge, and an angled surface, at outer parts of the exterior surface facing a convex surface of the liner, that dilates itself outwards from the convex surface, leaving a central aperture in the ammunition unit's direction of flight that dilates outwards like a truncated cone (In view of Figure 3, the direction of flight is relative to how the ammunition unit was fired, dropped, or launched).

**Regarding claim 7,** Held discloses wherein each explosive pre-charge or pre-charges begin from the exterior circumference of the barrier with parallel interior and exterior surfaces and are arranged with an end surface extending perpendicular to the interior and exterior surfaces and the interior and exterior surfaces allow a central aperture that extends cylindrically from the convex surface of liner in the ammunition unit's direction of flight (In view of Figures 1-3).

**Regarding claim 9,** Held discloses wherein the liner is deformed upon the initiation of the explosive pre-charge or pre-charges in a random manner over given cross sections (Inherently deformation of an object due to a blast or detonation would be random over given cross sections based on the blast wave propagation, intensity, etc).

**Regarding claim 10,** Held discloses wherein concave and convex surfaces of the liner obtain wave forms in given cross sections (Inherently variations between convex and concave surfaces of the liner would cause wave forms in given cross sections after detonation).

**Regarding claim 13,** Held discloses wherein each explosive pre-charge or pre-charges begin from the exterior circumference of the barrier with parallel interior and exterior surfaces and are arranged with an end surface extending perpendicular to the interior and exterior surfaces and the interior and exterior surfaces allow a central aperture that extends cylindrically from the convex surface of liner in the ammunition unit's direction of flight (In view of Figure 3, the direction of flight is relative to how the ammunition unit was fired, dropped, or launched).

**Regarding claim 16,** Held discloses wherein the liner is deformed upon the initiation of the explosive pre-charge or pre-charges in a random manner over given cross sections (Inherently deformation of an object due to a blast or detonation would be random over given cross sections based on the blast wave propagation, intensity, etc).

**Regarding claim 17,** Held discloses wherein the liner is deformed upon the initiation of the explosive pre-charge or pre-charges in a random manner over given cross sections (Inherently deformation of an object due to a blast or detonation would be random over given cross sections based on the blast wave propagation, intensity, etc).

**Regarding claim 18,** Held discloses wherein the liner is deformed upon the initiation of the explosive pre-charge or pre-charges in a random manner over given cross sections (Inherently deformation of an object due to a blast or detonation would be random over given cross sections based on the blast wave propagation, intensity, etc).

**Regarding claim 19,** Held discloses wherein concave and convex surfaces of the liner obtain wave forms in given cross sections (Inherently variations between convex and concave surfaces of the liner would cause wave forms in given cross sections after detonation).

**Regarding claim 20,** Held discloses wherein concave and convex surfaces of the liner obtain wave forms in given cross sections (Inherently variations between

convex and concave surfaces of the liner would cause wave forms in given cross sections after detonation).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 4, 6, 8, 11, 12, 14, and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,544,589 issued to Held (Held).

**Regarding claim 4**, Held discloses the claimed invention except for using 1mm of neoprene and 4mm of lead for the barrier layer. It would have been obvious matter of design choice to created the barrier layer from neoprene and lead, since applicant has not disclosed that using such an arrangement of layers in the barrier solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with other materials used in these layer, as evidenced in the specification at page 7, "Alternative Embodiments".

**Regarding claim 6**, Held discloses wherein the divergent fragment or material discharge, resulting from main charge initiation, is given small angles of dispersion, within the range of 0.4-9 degrees (Col. 1, Lines 52-60). Held discloses the claimed invention except for low velocities of about 540-925 m/s. It would have been an obvious matter of design choice to select a main charge size or composition that would cause the fragment or material discharge to have velocities in this range, since applicant has

not disclosed that such a range of velocities solves any stated problem or is for any particular purpose and it appears the invention would perform equally well with higher or lower velocity ranges.

**Regarding claim 8**, Held discloses wherein divergent material or fragment discharge, resulting from the initiation of the main charge, obtains angles of dispersion between 5.0-34 degrees (Col. 1, Lines 52-60). Held discloses the claimed invention except for low velocities within the range of 380-650 m/s. It would have been an obvious matter of design choice to select a main charge size or composition that would cause the fragment or material discharge to have velocities in this range, since applicant has not disclosed that such a range of velocities solves any stated problem or is for any particular purpose and it appears the invention would perform equally well with higher or lower velocity ranges.

**Regarding claim 11**, Held discloses wherein the ammunition unit is a missile or a projectile ("warhead" the definition of warhead according to Merriam Webster's Online Dictionary is the section of a missile containing the explosive, chemical, or incendiary charge, therefore, the reference implicitly discloses that the ammunition unit is a missile or a projectile).

**Regarding claim 12**, Held discloses wherein the divergent fragment or material discharge, resulting from main charge initiation, is given small angles of dispersion, within the range of 0.4-9 degrees (Col. 1, Lines 52-60). Held discloses the claimed invention except for low velocities of about 540-925 m/s. It would have been an obvious matter of design choice to select a main charge size or composition that would cause



the fragment or material discharge to have velocities in this range, since applicant has not disclosed that such a range of velocities solves any stated problem or is for any particular purpose and it appears the invention would perform equally well with higher or lower velocity ranges.

**Regarding claim 14**, Held discloses wherein divergent material or fragment discharge, resulting from the initiation of the main charge, obtains angles of dispersion between 5.0-34 degrees (Col. 1, Lines 52-60). Held discloses the claimed invention except for low velocities within the range of 380-650 m/s. It would have been an obvious matter of design choice to select a main charge size or composition that would cause the fragment or material discharge to have velocities in this range, since applicant has not disclosed that such a range of velocities solves any stated problem or is for any particular purpose and it appears the invention would perform equally well with higher or lower velocity ranges.

**Regarding claim 15**, Held discloses wherein divergent material or fragment discharge, resulting from the initiation of the main charge, obtains angles of dispersion between 5.0-34 degrees (Col. 1, Lines 52-60). Held discloses the claimed invention except for low velocities within the range of 380-650 m/s. It would have been an obvious matter of design choice to select a main charge size or composition that would cause the fragment or material discharge to have velocities in this range, since applicant has not disclosed that such a range of velocities solves any stated problem or is for any particular purpose and it appears the invention would perform equally well with higher or lower velocity ranges.

***Response to Arguments***

3. Applicant's arguments filed 14 April 2009 have been fully considered but they are not persuasive.

**In response to the applicant's argument** that the reference does not teach the two different modes of operation of the applicant's device, fragmentation and shaped charge, the limitations on which the applicant relies (ie, selection between shaped charge effect and fragmentation effect) are not stated in the claims. It is the claims that define the invention, and it is the claims, not specifications that are anticipated or unpatentable. *Constant v. Advanced Micro-Devices, Inc.*, 7 USPQ2d 1064. In this case, the claims are directed to "a device to control material or fragment discharge" there is nothing mentioned with respect to shaped charge effects.

**In response to the applicant's argument** that the fragmentation is clearly directed in a forward direction, the limitations on which the applicant relies (ie, forward direction fragmentation) are not stated in the claims. It is the claims that define the invention, and it is the claims, not specifications that are anticipated or unpatentable. *Constant v. Advanced Micro-Devices, Inc.*, 7 USPQ2d 1064. In this case, the claims are directed to "controlling material or fragment discharge in an ammunition unit's direction of flight", which is not necessarily the forward direction of the device, for instance the direction of flight when the device is dropped is different from the direction of flight when the device is fired from a cannon, or is deflected off a surface and strikes sideways, etc.

***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan C. Weber whose telephone number is (571)270-5377. The examiner can normally be reached on Monday-Friday 7:30AM-4:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on (571)272-6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J. Carone/  
Supervisory Patent Examiner, Art Unit 3641

/J. C. W./  
Examiner, Art Unit 3641